DATA EVALUATION RECORD

S-METHOPRENE
(B2E-09)

STUDY TYPE: Product Performance (OPPTS 810.3400)

MRID 46763208

Prepared for
Biopesticides and Pollution Prevention Division
Office of Pesticide Programs
U.S. Environmental Protection Agency
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Arlington, VA 22202

Prepared by
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Task Order No. 05-059

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DATA EVALUATION RECORD

EPA Secondary Reviewer: Virginia Gonzalez

STUDY TYPE:	Product Performance (810.3400)
MRID NO:	46763208
DP BARCODE:	DP327777
CASE NO:	Not provided
SUBMISSION NO:	Not provided
TEST MATERIAL:	B2E-09 (a.i., 2.5% w/w S-methoprene)
STUDY NO:	062904
SPONSOR:	B2E Biotech LLC, 2228 Montauk Highway, Bridgehampton, NY 11932-1483
TESTING FACILITY:	B2E Biotech LLC, 2228 Montauk Highway, Bridgehampton, NY 11932-1483
TITLE OF REPORT:	Field Evaluations of B2E-09 Against *Ochlerotatus melanimon* Mosquitoes in Irrigated Pasture Sites
AUTHOR:	Sjogren, R.D.
STUDY COMPLETED:	June 22, 2005
CONFIDENTIALITY CLAIMS:	None
GOOD LABORATORY PRACTICE:	A signed GLP statement was provided. The study was GLP compliant with the following exceptions: there was no quality assurance unit; the stability, characterization, identity, and verification of the test substance concentration as received and tested were the responsibility of the study sponsor; signatures of individual research assistants were not obtained; and B2E Biotech LLC will archive all signed reports and protocols.
STUDY SUMMARY:	Efficacy of B2E-09 (a.i., 2.5% S-methoprene) against natural populations of *Ocherotatus melanimon* mosquitoes was tested in irrigation-flooded pasture depressions. Larvae were collected from treated and control sites and monitored in the laboratory for development to adults. Compared to the untreated control, B2E-09 significantly inhibited the emergence of adult mosquitoes by 95 to 100% over the 380-day test.

Test Material

B2E-09 briquets (a.i., 2.5% w/w S-methoprene), Lot No. I-5-22-04, manufactured and supplied by the sponsor.

Test Methods

Efficacy and longevity of B2E-09 briquets against natural populations of *Ochlerotatus melanimon* mosquitoes were tested at irrigated pasture sites near Bishop, CA.

On June 29, 2004, B2E-09 briquets were applied to an irrigation tail water depression (8102 square feet, average water depth of 24-36 inches) containing second instar *Oc. melanimon* larvae. The application rate was 1 briquet/300 square feet (27 briquets total). Forty *Oc. melanimon* larvae were collected (time of collection not reported) and transferred to the laboratory to complete their development. The site dried out and was subsequently re-flooded with irrigation water on July 22, 2004. Eight days after the re-flooding, 40 *Oc. melanimon* larvae were collected in clean Styrofoam cups with lids and transferred to the laboratory to complete their development.

On May 20, 2005 (326 days after treatment) the B2E-09 briquets (averaging 43% of their original weight) were collected from the dry irrigation tail water depression and one of them was re-applied in a nearby 200-square foot irrigated pasture depression (presumably dry at the time) with an average water depth of 24 inches. On July 5, 2005, the site was flooded with irrigation water and on July 12, 2005, 200 *Oc. Melanimon* larvae were collected in clean Styrofoam cups with lids and transferred to the laboratory to complete their development.

Developmental outcome of the collected larvae in the cups was expressed as 1) dead pupae in the cup, 2) adult mosquitoes dead on the water in the cup, or 3) emerged adults that flew from the cup. To determine the number of emerged adults that flew from the cups, exuviae were counted and the number of dead adults was subtracted from the number of exuviae.

Results were reported as inhibition of emergence (IE) on the elapsed days post-treatment required for the cohort to complete development. Data were analyzed using a Chi-square test with a 5% level of significance. Replicate testing was not performed.

Results Summary

Overall results are given in Table 1. Larvae collected from the tail water depression treated June 29, 2004, had 100% mortality 72 hours after the B2E-09 treatment. Untreated pupae (collection site not specified) had an emergence rate of 95% (38 adults from 40 pupae).

Two days after the July 30 collection of larvae from the re-flooded tail water depression, the collection cups contained 38 dead pupae and two live adults, for a 95% IE. Untreated pupae collected (site not specified) had an emergence rate of 100% (40 adults from 40 pupae).

No adults emerged from the 200 pupae collected from the second tail water depression on July 12, 2005, for a 100% IE. Of 40 untreated pupae collected (site not specified) 39 emerged as adults.

TABLE 1. Percent inhibition of emergence (IE) of *Oc. melanimon* by B2E-09 treatment		
Percent IE on days post-treatment for completion of development		
Days post-treatment	**Control**	**B2E-09**
3	5 ± 3.4^a	100^b
35	0^a	95 ± 3.4^b
380	2.5 ± 2.5^a	100^b

Means in the same row followed by different letters are significantly different (Chi-square, $p \geq 0.05$)
Data from p. 9, MRID 46763208

Study Author;s Conclusions

The study author concluded that B2E-09 inhibited mosquito emergence for more than twice the label claim of 150 days.

Reviewer's Conclusion

Based on the information presented, the reviewer agrees with the study author's conclusion. The application rates used in this study were less than or equal to the label-recommended rate of one briquet/200 square feet for *Ochlerotatus* and the required 95% control was achieved. For the three-day results reported in Table 1, it is unclear in the report when the larvae were collected from the treated site. The report did not state where any of the untreated larvae collections occurred. Results cannot be validated because replicate testing was not performed in this study.